

Texas Water Development Board



WATER Conditions

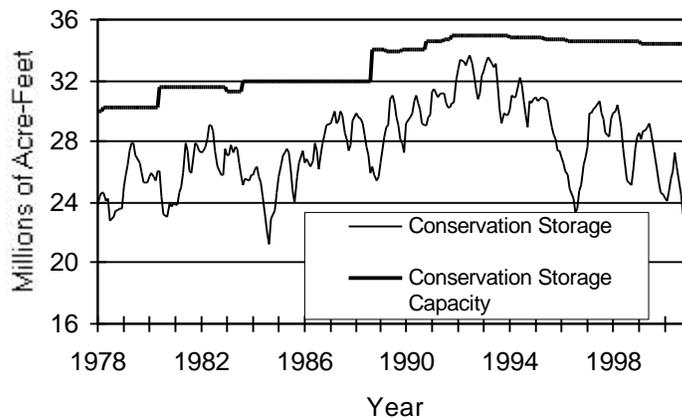
RESERVOIR STORAGE

October 2000

Near the end of October, the 77 reservoirs monitored for this report held 23.6 million acre-feet in conservation storage, or 68.5 percent of the conservation storage capacity of the State's major reservoirs. Despite rainfall through most of the state during the month, this is the fifth-lowest percentage of capacity recorded in 23 years, and the lowest recorded for the end of October. Storage increased by 0.5 million acre-feet (+1.3% of conservation storage capacity) during the month. Compared to October 1999, storage is down 1.68 million acre-feet (-4.9%). Statewide storage was on the rise at the end of the month

Storage increased during the month in all regions except in the East region. The largest percentage increases occurred in the South Central (+8.2%), Low Rolling Plains (+3.2%), and North Central (+3.0%) regions. Storage in the East region decreased by 1.4%. Two reservoirs (Twin Buttes Reservoir, 4.5%, and O.C. Fisher, 5.7%) held less than 10% of storage. Fort Phantom Hill Reservoir experienced the largest percentage increase at +20%.

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS



Current data are based on elevation near end of month at 77 reservoirs that represent 98 percent of total conservation storage capacity in Texas reservoirs having a capacity of 5,000 acre-feet or more.

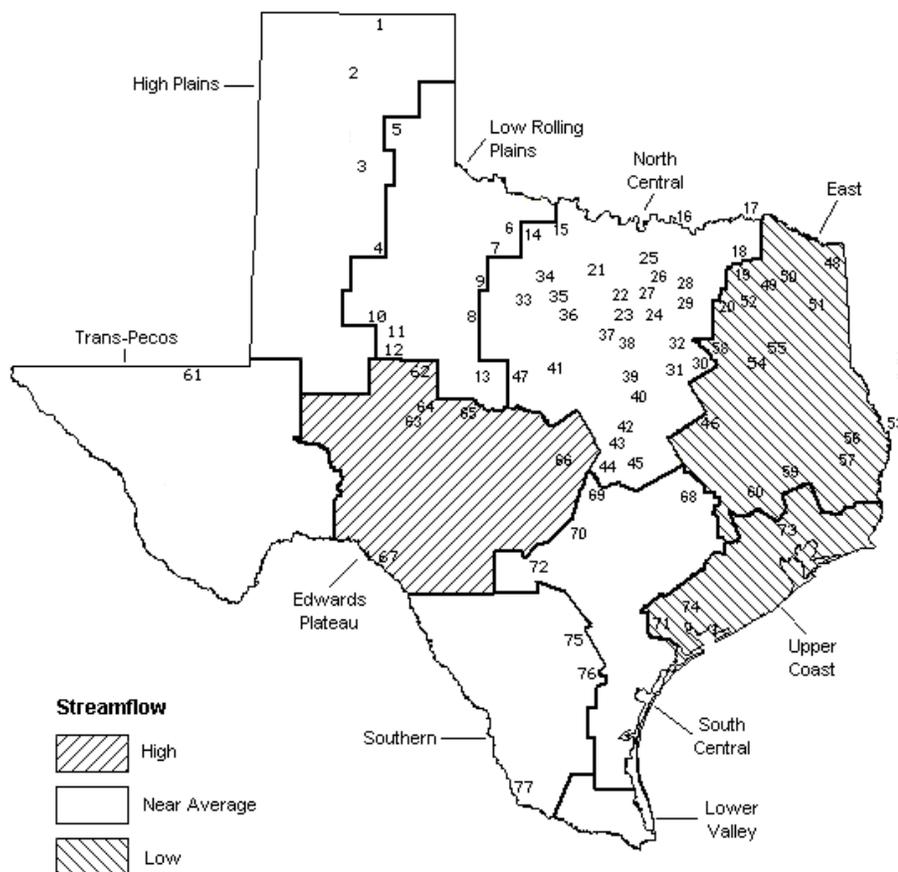
STREAMFLOW

Of 29 reporting index stations in October, computed 30-day mean flows were very high (0% - 5% exceedance) at 3 stations, high (5% - 30% exceedance) at 7 stations, near normal (30% - 70% exceedance) at 8 stations, low (70% - 95% exceedance) at 10 stations, and very low (95% - 100% exceedance) at 1 stations. In comparison to September, flows increased at 25 index stations, decreased at 3, and remained the same, with no flow recorded, at 1.

On a regional basis, flows in October were very high in the Edwards Plateau, low in the East and Upper Coast regions, and near normal elsewhere. Three of four reporting stations in the Edwards Plateau reported very high flows, and the fourth reported high flows. Seven of eight reporting index stations in the East and Upper Coast regions reported low or very low flows. One station, Hubbard Creek below Albany, reported zero flows in October.

OCTOBER STREAMFLOW CONDITIONS

Reservoirs Shown on Map



- | | |
|----------------------------------|-----------------------------|
| 1. Palo Duro Reservoir | 40. Waco Lake |
| 2. Lake Meredith | 41. Proctor Lake |
| 3. MacKenzie Reservoir | 42. Belton Lake |
| 4. White River Lake | 43. Stillhouse Hollow Lake |
| 5. Greenbelt Reservoir | 44. Lake Georgetown |
| 6. Lake Kemp | 45. Granger Lake |
| 7. Miller's Creek Reservoir | 46. Lake Limestone |
| 8. Fort Phantom Hill Reservoir | 47. Lake Brownwood |
| 9. Lake Stamford | 48. Wright Patman Lake |
| 10. Lake J. B. Thomas | 49. Lake Cypress Springs |
| 11. Lake Colorado City | 50. Lake Bob Sandlin |
| 12. Champion Creek Reservoir | 51. Lake O' the Pines |
| 13. Hords Creek Lake | 52. Lake Fork Reservoir |
| 14. Lake Kickapoo | 53. Toledo Bend Reservoir |
| 15. Lake Arrowhead | 54. Lake Palestine |
| 16. Lake Texoma | 55. Lake Tyler |
| 17. Pat Mayse Lake | 56. Sam Rayburn Reservoir |
| 18. Cooper Lake | 57. B. A. Steinhagen Lake |
| 19. Lake Sulphur Springs | 58. Cedar Creek Reservoir |
| 20. Lake Tawakoni | 59. Lake Livingston |
| 21. Bridgeport Reservoir | 60. Lake Conroe |
| 22. Eagle Mountain Reservoir | 61. Red Bluff Reservoir |
| 23. Benbrook Lake | 62. E. V. Spence Reservoir |
| 24. Joe Pool Lake | 63. Twin Buttes Reservoir |
| 25. Ray Roberts Lake | 64. O. C. Fisher Lake |
| 26. Lewisville Lake | 65. O. H. Ivie Reservoir |
| 27. Grapevine Lake | 66. Lake Buchanan |
| 28. Lavon Lake | 67. Intl. Amistad Reservoir |
| 29. Lake Ray Hubbard | 68. Somerville Lake |
| 30. Richland-Chambers Creek Lake | 69. Lake Travis |
| 31. Navarro Mills Lake | 70. Canyon Lake |
| 32. Bardwell Lake | 71. Coleto Creek Reservoir |
| 33. Hubbard Creek Reservoir | 72. Medina Lake |
| 34. Lake Graham | 73. Lake Houston |
| 35. Possum Kingdom Lake | 74. Lake Texana |
| 36. Lake Palo Pinto | 75. Choke Canyon Reservoir |
| 37. Lake Granbury | 76. Lake Corpus Christi |
| 38. Lake Pat Cleburne | 77. Intl. Falcon Reservoir |
| 39. Whitney Lake | |

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late October 2000 (acre-feet)	(%)	Change since Late September 2000 (acre-feet)	(%)	Change since Late October 1999 (acre-feet)	(%)
HIGH PLAINS								
Palo Duro Reservoir	1	60,900	15,120	25	-630	-1	-6,831	-11
Lake Meredith (Texas)	2	500,000	340,000	68	3,300	1	-65,031	-13
Lake Meredith (Texas and Oklahoma)	(2)	779,560	340,000	44	3,300	0	-65,031	-8
MacKenzie Reservoir	3	46,250	8,220	18	-10	0	-1,840	-4
White River Lake	4	31,850	11,830	37	-310	-1	-5,810	-18
TOTAL		639,000	375,170	59	2,350	0	-79,512	-12
LOW ROLLING PLAINS								
Greenbelt Reservoir	5	58,200	23,350	40	30	0	-2,420	-4
Lake Kemp	6	319,600	110,600	35	9,300	3	-42,400	-13
Miller's Creek Reservoir	7	27,890	6,350	23	-50	0	-5,530	-20
Fort Phantom Hill Reservoir	8	70,030	36,490	52	14,150	20	15,670	22
Lake Stamford	9	52,700	7,120	14	-40	0	20	0
Lake J. B. Thomas	10	202,300	30,010	15	3,090	2	-3,110	-2
Lake Colorado City	11	30,800	21,820	71	-280	-1	6,220	20
Champion Creek Reservoir	12	41,600	4,420	11	40	0	-870	-2
Hords Creek Lake	13	8,600	3,480	40	50	1	-319	-4
TOTAL		811,720	243,640	30	26,290	3	-32,739	-4
NORTH CENTRAL								
Lake Kickapoo	14	106,000	41,020	39	2,280	2	-13,974	-13
Lake Arrowhead	15	262,100	93,810	36	2,510	1	-46,590	-18
Lake Texoma	16	2,722,300	2,654,000	97	411,000	15	300,597	11
Pat Mayse Lake	17	124,500	106,000	85	-500	0	2,778	2
Cooper Lake	18	273,000	273,000	100	0	0	51,530	19
Lake Sulphur Springs	19	17,710	15,160	86	-200	-1	1,013	6
Lake Tawakoni	20	936,200	831,600	89	-19,000	-2	33,800	4
Bridgeport Reservoir	21	374,830	166,360	44	-6,165	-2	-66,088	-18
Eagle Mountain Reservoir	22	178,380	102,700	58	800	0	-37,413	-21
Benbrook Lake	23	88,200	50,690	57	-220	0	-6,494	-7
Joe Pool Lake	24	175,800	161,400	92	0	0	2,657	2
Ray Roberts Lake	25	798,760	423,700	53	7,800	1	-208,201	-26
Lewisville Lake	26	555,000	310,300	56	-100	0	-27,226	-5
Grapevine Lake	27	187,700	109,600	58	100	0	-27,090	-14
Lavon Lake	28	443,800	313,600	71	-12,300	-3	15,013	3
Lake Ray Hubbard	29	413,420	315,700	76	2,700	1	-97,720	-24
Richland-Chambers Creek Lake	30	1,103,820	1,017,000	92	-14,000	-1	25,026	2
Navarro Mills Lake	31	55,810	46,030	82	-680	-1	3,762	7
Bardwell Lake	32	53,580	44,810	84	-1,400	-3	6,248	12
Hubbard Creek Reservoir	33	317,800	140,800	44	-3,000	-1	-74,700	-24
Lake Graham	34	45,000	31,260	69	1,300	3	-10,730	-24
Possum Kingdom Lake	35	551,820	429,600	78	-200	0	-7,400	-1
Lake Palo Pinto	36	27,650	6,940	25	-550	-2	-25,079	-91
Lake Granbury	37	135,680	114,600	84	-2,100	-2	-16,200	-12
Lake Pat Cleburne	38	25,300	20,160	80	-240	-1	2,102	8
Whitney Lake	39	622,800	483,200	78	-800	0	52,700	8
Waco Lake	40	144,500	123,100	85	-7,400	-5	7,820	5
Proctor Lake	41	55,590	6,400	12	-880	-2	-16,219	-29
Belton Lake	42	434,500	367,100	84	-1,600	0	-22,601	-5
Stillhouse Hollow Lake	43	226,060	205,700	91	900	0	-9,178	-4
Lake Georgetown	44	37,010	14,150	38	-840	-2	-15,175	-41
Granger Lake	45	54,280	49,370	91	4,220	8	-85	0
Lake Limestone	46	215,750	179,700	83	-6,800	-3	-2,900	-1
Lake Brownwood	47	143,400	84,140	59	1,350	1	-4,910	-3
TOTAL		11,908,050	9,332,700	78	355,985	3	-230,927	-2

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage		Change since Late September 2000		Change since Late October 1999	
			Late October 2000 (acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)	(%)
EAST								
Wright Patman Lake	48	142,700	142,700	100	0	0	0	0
Lake Cypress Springs	49	66,800	64,070	96	340	1	-2,590	-4
Lake Bob Sandlin	50	202,300	190,900	94	-1,700	-1	6,600	3
Lake O' the Pines	51	252,000	241,300	96	-5,200	-2	10,525	4
Lake Fork Reservoir	52	635,200	612,500	96	-7,200	-1	15,100	2
Toledo Bend Reservoir	53	4,472,900	3,581,000	80	-81,000	-2	17,000	0
Lake Palestine	54	411,300	352,700	86	-2,300	-1	-4,800	-1
Lake Tyler	55	73,700	53,100	72	-2,010	-3	-20,261	-27
Sam Rayburn Reservoir	56	2,876,300	1,978,000	69	-67,000	-2	-236,000	-8
B. A. Steinhagen Lake	57	94,200	89,320	95	2,340	2	585	1
Cedar Creek Reservoir	58	637,050	522,000	82	-15,500	-2	-68,983	-11
Lake Livingston	59	1,750,000	1,622,000	93	11,000	1	-36,000	-2
Lake Conroe	60	429,900	345,600	80	-2,800	-1	-35,300	-8
TOTAL		12,044,350	9,795,190	81	-171,030	-1	-354,124	-3
TRANS-PECOS								
Red Bluff Reservoir	61	307,000	53,990	18	6,930	2	-31,350	-10
TOTAL		307,000	53,990	18	6,930	2	-31,350	-10
EDWARDS PLATEAU								
E. V. Spence Reservoir	62	488,760	88,610	18	4,630	1	24,590	5
Twin Buttes Reservoir	63	177,800	8,020	5	7,666	4	-321	0
O.C. Fisher Lake	64	119,200	10,280	9	3,440	3	1,684	1
O. H. Ivie Reservoir	65	554,340	293,200	53	5,200	1	-47,100	-8
Lake Buchanan	66	896,980	439,700	49	7,200	1	-179,475	-20
Amistad Reservoir (Texas)	67	1,771,030	865,000	49	30,000	2	-183,000	-10
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	1,028,000	33	33,000	1	-348,000	-11
TOTAL		4,008,110	1,704,810	43	58,136	1	-383,622	-10
SOUTH CENTRAL								
Somerville Lake	68	155,060	104,500	67	2,600	2	-36,204	-23
Lake Travis	69	1,144,100	664,700	58	82,100	7	-187,132	-16
Canyon Lake	70	385,600	384,000	100	49,300	13	20,234	5
Coletto Creek Reservoir	71	35,060	23,700	68	-280	-1	-2,440	-7
Medina Lake	72	254,000	133,800	53	28,200	11	-84,400	-33
TOTAL		1,973,820	1,310,700	66	161,920	8	-289,942	-15
UPPER COAST								
Lake Houston	73	128,860	99,470	77	-4,230	-3	-5,130	-4
Lake Texana	74	157,900	123,800	78	4,600	3	-2,700	-2
TOTAL		286,760	223,270	78	370	0	-7,830	-3

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

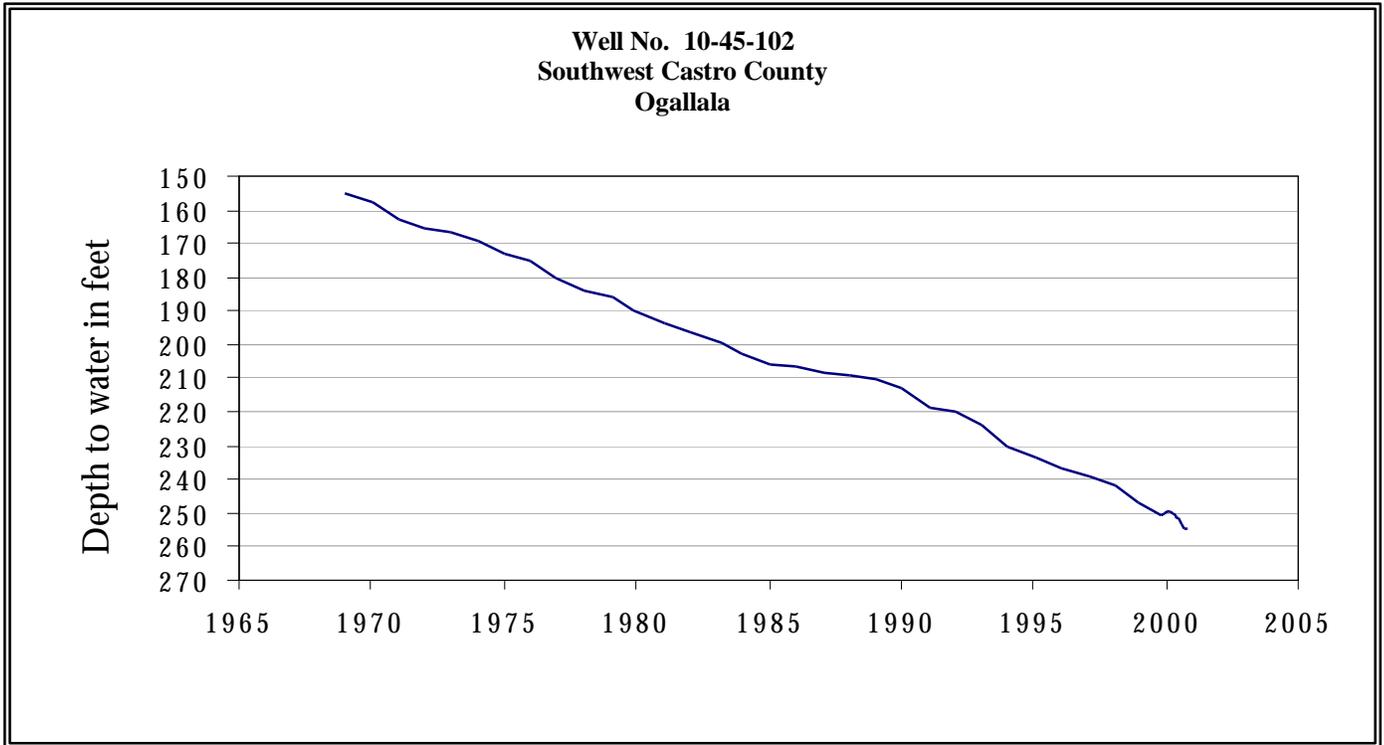
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late October 2000 (acre-feet)	(%)	Change since Late September 2000 (acre-feet)	(%)	Change since Late October 1999 (acre-feet)	(%)
SOUTHERN								
Choke Canyon Reservoir	75	695,260	241,000	35	3,000	0	-70,000	-10
Lake Corpus Christi	76	241,240	63,290	26	-5,900	-2	-109,910	-46
Falcon Reservoir (Texas)	77	1,555,120	261,000	17	21,000	1	-95,000	-6
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	298,000	11	24,000	1	-381,000	-14
TOTAL		2,491,620	565,290	23	18,100	1	-274,910	-11
STATE TOTAL		34,470,430	23,604,760	68	459,051	1	-1,684,956	-5

Note:

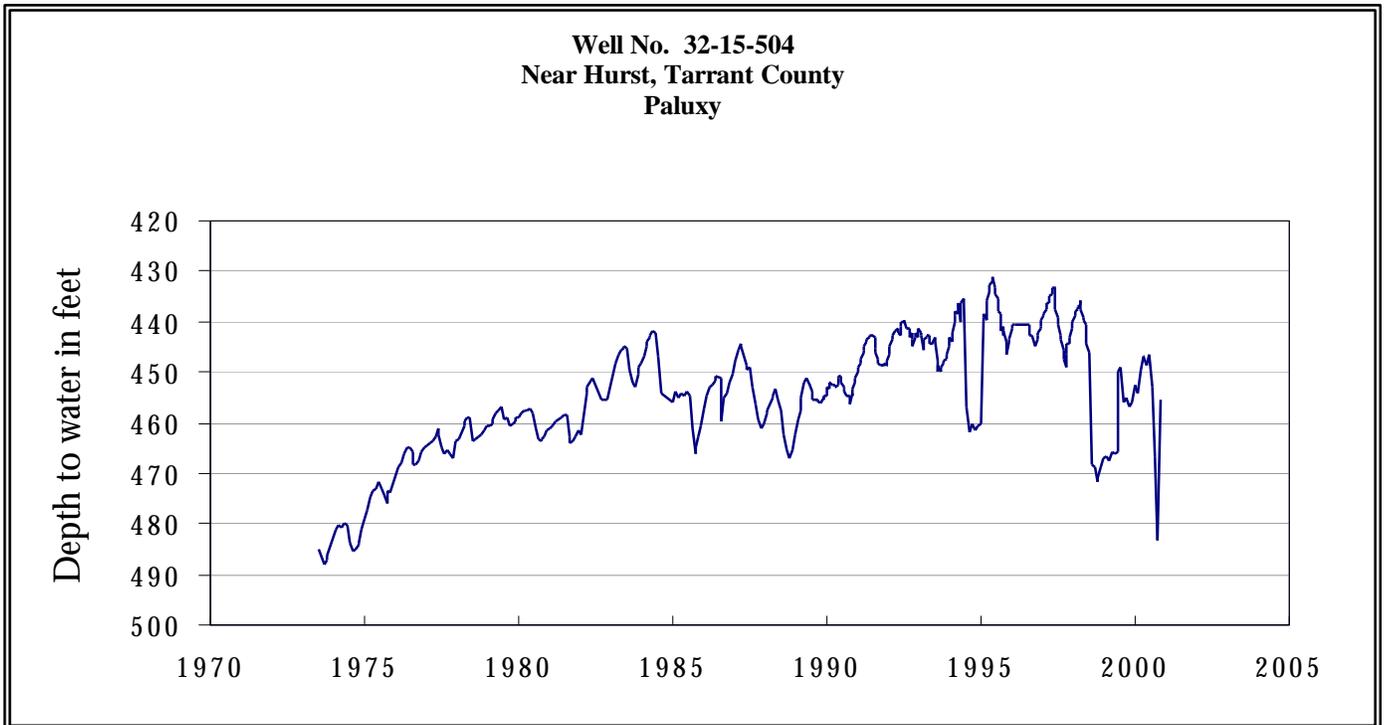
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included is any water in flood control storage (above the top of conservation pool or normal maximum operating level), or any water in so called dead storage (in the bottom of the reservoir, below the invert of lowest outlet works and consequently not removable by gravity flow alone.) Percentage of conservation storage is based on the conservation storage capacity of the reservoir and the conservation storage in the reservoir for date shown. Percent change is given by % Change = 100 * (current conservation storage - past conservation storage)/conservation storage capacity.

Current data are based on elevations near end of month at 77 reservoirs that together represent 98 percent of the total conservation storage capacity of major Texas reservoirs (those with capacity of 5,000 acre-feet or more each). Figures in parentheses for Lake Meredith represent the total conservation storage excluding 58,014 acre-feet of dead storage and are not included in State total. Preliminary figures are shown for the United States' share of conservation storage in International Amistad and International Falcon Reservoirs; the estimates may be subject to revision on completion of international water accounting. Texas (United States' share) and Mexico and are not included in State total.

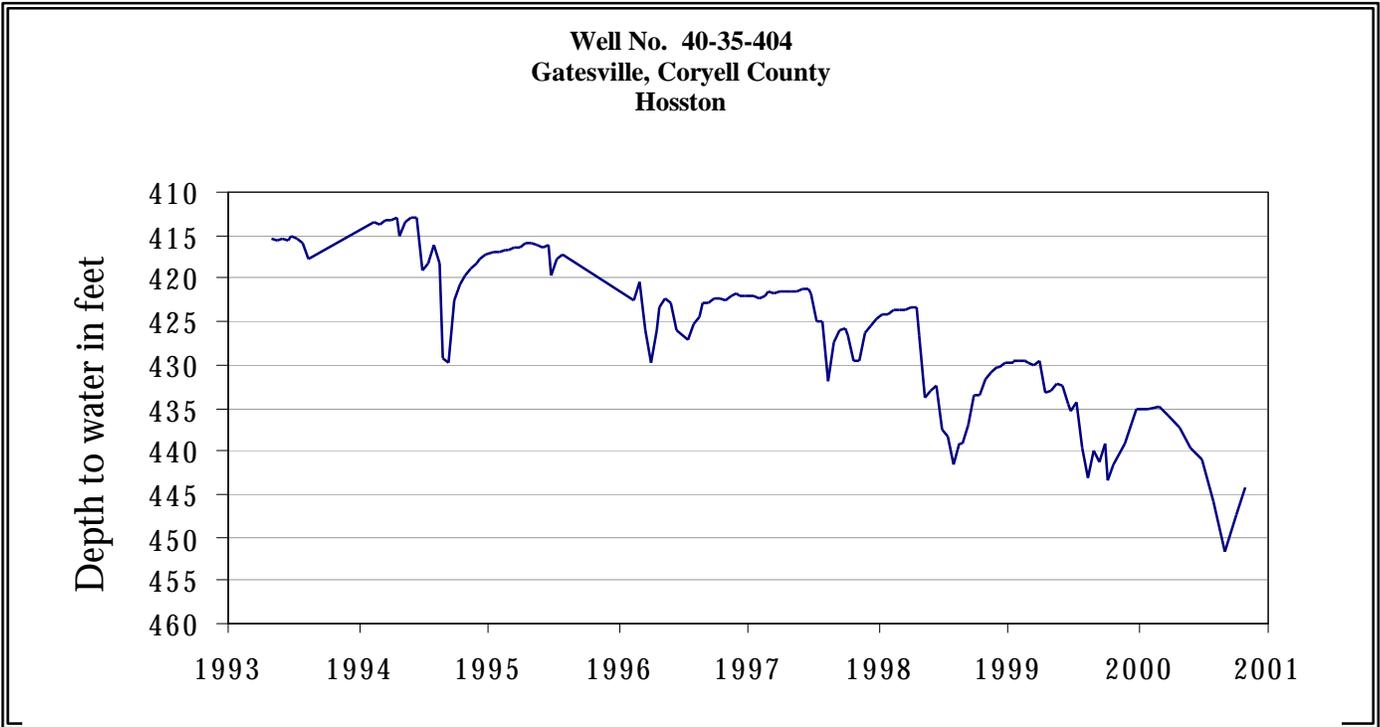
OCTOBER GROUND WATER LEVELS IN OBSERVATION WELLS



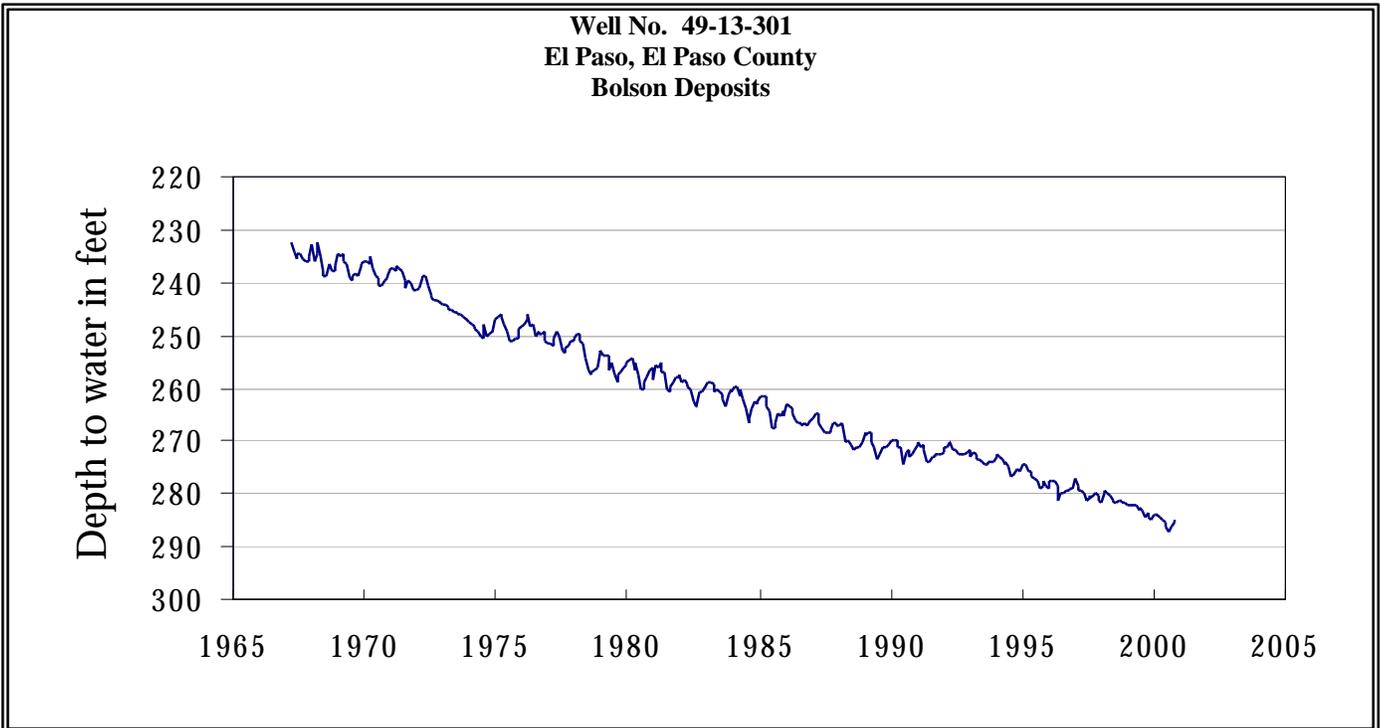
The late October water-level measurement in this Ogallala aquifer well, elevation 3,816 feet above sea level, was 254.31 feet below land surface. This measurement was 0.27 feet above last month's measurement, 3.77 feet below last year's measurement, and 98.31 feet below the initial measurement recorded in 1968.



The late October water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 455.55 feet below land surface. This measurement was 27.87 feet above last month's measurement, 1.31 feet above last year's measurement, and 62.16 feet below the initial measurement recorded in 1953.

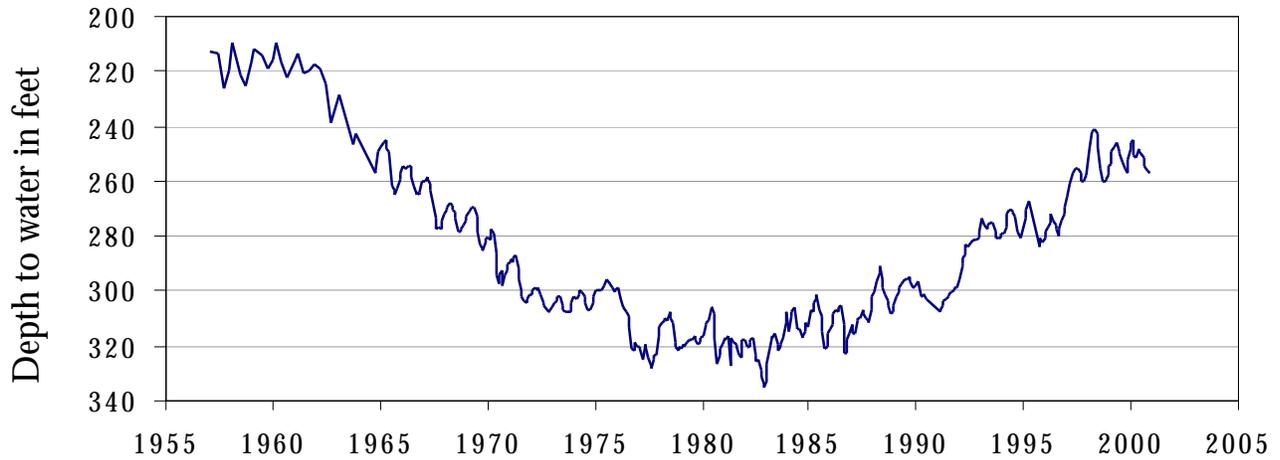


The late October water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 444.23 feet below land surface. This measurement was 3.31 feet above last month's measurement, 3.05 feet below last year's measurement, and 152.23 feet below the initial measurement recorded in 1955.



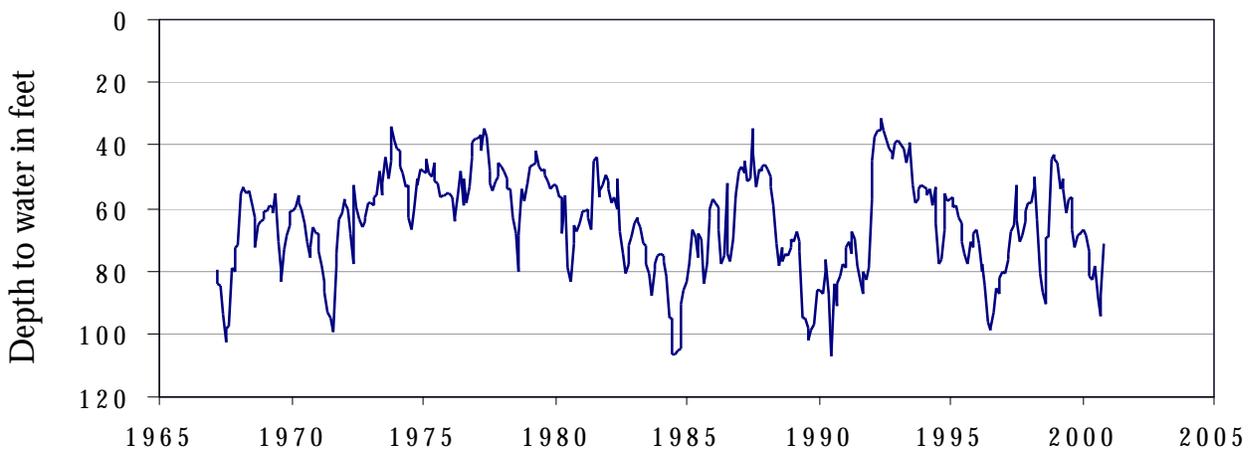
The late October water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 256.63 feet below land surface. This was 0.53 feet above last month's measurement, 0.52 feet below last year's measurement, and 53.10 feet below the initial measurement recorded in 1964.

**Well No. 65-14-409
Alief, Harris County
Evangeline**



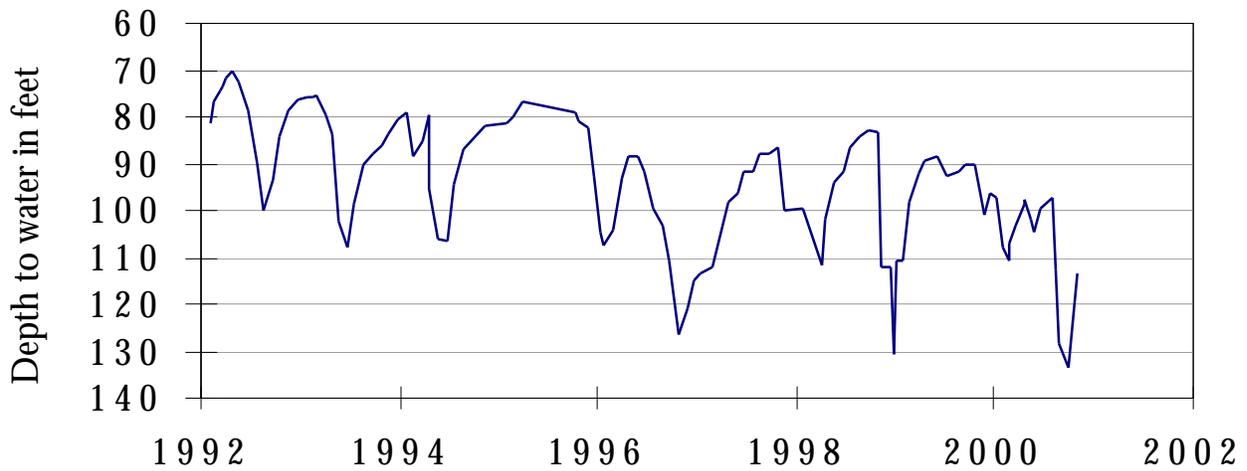
The early October water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 256.63 feet below land surface. This was 0.57 feet below last month's measurement, 0.02 feet below last year's measurement, and 153.40 feet below the initial measurement recorded in 1947.

**Well No. 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards and Associated Limestones**



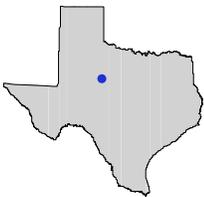
The late October water-level measurement in this Edwards (BFZ) aquifer well, elevation 731 feet above sea level, was 71.29 feet below land surface. This was 16.59 feet above last month's measurement, 2.50 feet below last year's measurement, and 11.67 feet below the initial measurement recorded in 1962.

**Well No. 68-60-912
Between Poteet and Pleasanton, Atascosa County
Carrizo**



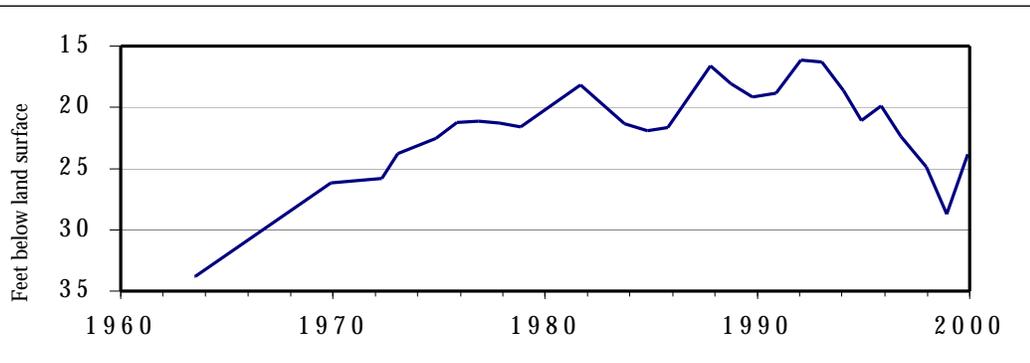
The late October water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 113.57 feet below land surface. This measurement was 19.93 feet above last month's measurement, 2.5 feet below last year's measurement, and 32.32 feet below the initial measurement recorded in 1965.

HYDROGRAPH OF THE MONTH



Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.

**Well No 28-40-602
Mitchell County**



This 65-foot deep stock well, approximately 8 miles west of Colorado City at an elevation of 2157 feet above sea level, was completed in the outcrop of the Dockum aquifer. Declining water levels from 1992 through 1999 are probably due to dryer conditions, with the lowest recent measurement in 1999 reflecting nearby pumping.